

LISTING OF THE CLAIMS

Applicants hereby present the claims, their status in the application, and amendments thereto as indicated:

1. (Currently Amended) A muscle actuator comprising:
 - an inner bladder comprising a first end and a second end and the inner bladder being configured to communicate with a pneumatic source,
 - a braided material wrapped over at least a substantial portion of the inner bladder,
 - an end fitting attached to ~~both~~ each of the first end and the second end, and
 - a helical coil spring positioned over at least a portion of the braided material or inside the inner bladder and positioned between the first end and the second end.
2. (Original) The muscle actuator of claim 1, further comprising a control mechanism for controlling the amount of flow of the pneumatic source into and out of the inner bladder.
3. (Original) The muscle actuator of claim 1, wherein the helical coil spring is positioned over at least a portion of the braided material.
4. (Currently Amended) The muscle actuator of claim 3, wherein the helical coil spring comprises two ends, and wherein one of the two ends is ~~mechanically coupled to a clamping device~~ mechanical connector.
5. (Currently Amended) The muscle actuator of claim 4, further comprising an ~~elongated shell~~ actuating cylinder positioned over at least a portion of the braided material and wherein the ~~clamping device~~ mechanical connector is clamped to the ~~elongated shell~~ actuating cylinder.
6. (Currently Amended) The muscle actuator of claim 5, wherein the ~~elongated shell~~ actuating cylinder comprises two individual shell members in telescoping relationship with one another.

7. (Currently Amended) The muscle actuator of claim 6, further comprising a second ~~clamping device~~ mechanical connector mechanically coupled to the second end of the helical coil spring.
8. (Original) The muscle actuator of claim 1, wherein the helical coil spring is positioned over at least a portion of the braided material, and wherein an elongated shell is positioned over the helical coil spring.
9. (Original) The muscle actuator of claim 8, wherein the spring comprises two ends, and wherein a disc comprising an opening is mechanically coupled to one of the ends.
10. (Currently Amended) ~~A muscle actuator comprising~~ An artificial muscle comprising:
 - at least one muscle actuator, each muscle actuator comprising:
 - an inner bladder comprising a first end and a second end and the inner bladder being configured to communicate with a pneumatic source,
 - a braided material wrapped over at least a substantial portion of the inner bladder,
 - an end fitting attached to both each of the first end and the second end,
 - and
 - a mechanical device coupled in parallel with the inner bladder such that when the inner bladder is inflated, a compression force is generated on the mechanical device, and when the inner bladder is deflated, a pushing force is generated by the mechanical device ~~capable of receiving a compression force and generating a pushing force when the compression force is removed~~ mounted in parallel with the muscle actuator.
11. (Currently Amended) The artificial muscle actuator of claim 10, wherein the at least one mechanical device is a shock absorber.
12. (Currently Amended) The artificial muscle actuator of claim 11, wherein the shock absorber is a compression gas spring shock absorber.
13. (Currently Amended) The artificial muscle actuator of claim 11, wherein the shock absorber is a locking compression gas spring shock absorber.

14. (Currently Amended) The artificial muscle actuator of claim 10, wherein the mechanical device is a helical spring.
15. (Currently Amended) The artificial muscle actuator of claim 14, wherein the helical spring is disposed over the inner bladder.
16. (Currently Amended) The artificial muscle actuator of claim 14, wherein the helical spring is mounted inside the inner bladder.
17. (Currently Amended) The artificial muscle actuator of claim 14, wherein the helical spring is adjacent the inner bladder.
18. (Currently Amended) The artificial muscle actuator of claim 17, wherein the helical spring includes an adjustment clamp.
19. (Cancelled).
20. (Currently Amended) The artificial muscle actuator of claim 10, further comprising a knee brace, wherein one of the ends of each muscle actuator is mechanically coupled to the knee brace.
21. (Currently Amended) The artificial muscle actuator of claim 14, wherein the helical spring comprises is coupled to two mechanical connectors.
22. (Currently Amended) The artificial muscle actuator of claim 21, wherein the two mechanical connectors are clamped to a telescoping structure.
23. (Currently Amended) The artificial muscle actuator of claim 22, wherein the telescoping structure comprises a starting position, and wherein the two mechanical connectors clamp the helical spring in a compressed position when the telescoping structure is in the starting position.
24. (Currently Amended) The artificial muscle actuator of claim 22, wherein the telescoping structure comprises a starting position, and wherein the two clamping devices mechanical connectors clamp the helical spring in a stretched position when the telescoping structure is in the starting position.
25. (Currently Amended) The artificial muscle actuator of claim 10, further comprising ~~a second muscle actuator comprising a second mechanical device mounted in~~

~~parallel with muscle actuator~~, wherein the at least two muscle actuator actuators and the ~~second muscle actuator~~ are positioned coupled in parallel on two different sides of a pivoting member.

26. (Currently Amended) The artificial muscle actuator of claim 25, wherein the pivoting member is coupled to a pivot joint.

27. (Currently Amended) The artificial muscle actuator of claim 10, further-comprising ~~a second muscle actuator comprising a second mechanical device mounted in parallel with the muscle actuator~~, wherein the muscle actuator and the ~~second muscle actuator~~ at least two muscle actuators are both coupled ~~[[to]]~~ in parallel on a knee brace.

28. (Currently Amended) The artificial muscle actuator of claim 10, wherein ~~[[the]]~~ two end fittings of the muscle actuator are attached to a structure comprising a pivot arm; and wherein the mechanical device is also attached to the same structure with the pivot arm.

29. (Cancelled).

30. (Currently Amended) The artificial muscle actuator of claim ~~29~~ claim 10, wherein the at least one muscle actuator and the ~~two mechanical devices~~ are is mounted to two flanges.

31. (Currently Amended) The artificial muscle actuator of claim 10, further-comprising ~~a second muscle actuator, a third muscle actuator, and a fourth muscle actuator, each of the second through fourth actuator comprising a mechanical device mounted in parallel with the muscle actuator~~, wherein the each of a first pair of muscle actuator and the second muscle actuator are actuators is positioned on two different sides of a first pivoting member, and wherein the ~~third muscle actuator and the fourth muscle actuator~~ each of a second pair of muscle actuators is are positioned on two different sides of a second pivoting member.

32. (Currently Amended) The artificial muscle actuator of claim 31, wherein the first pivoting member and the second pivoting member are coupled to pivot joints.

33. (Currently Amended) A combination pneumatic actuator muscle and coupled in parallel with a mechanical device ~~capable of~~ adapted to receiving ~~receive~~ a

compression force and ~~generating~~ generate a pushing force when the compression force is removed ~~mounted to a first surface and a second surface~~, wherein a passage is incorporated in a header of the pneumatic actuator muscle for receiving a pressurized source, wherein the pneumatic actuator muscle produces ~~a pulling~~ the compression force to compress the mechanical device when the pressurized source enters the pneumatic actuator muscle; and wherein the mechanical device generates ~~[[a]]~~ the pushing force when the pressurized source is discharged from the pneumatic actuator muscle.

34. (Original) The combination pneumatic actuator muscle and mechanical device of claim 33, wherein the mechanical device is a shock absorber.
35. (Currently Amended) The combination pneumatic actuator muscle and mechanical device of claim 34, wherein the shock absorber is a locking compression gas ~~spring-type~~ spring shock absorber.
36. (Original) The combination pneumatic actuator muscle and mechanical device of claim 33, wherein the mechanical device is a helical spring.